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PATENT SPECIFICATION

DRAWINGS ATTACHED

L136.333

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Application Date: 20 Sept., 1966.

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Complete Specification Published: 11 Dec., 1968.

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Index at acceptance:—B7 A (44, 45); E1 H11

Int. Cl.:—B 63 b 35/34

COMPLETE SPECIFICATION

Improvements in and relating to Pontoons

I, NORMAN EDWARD WAY, a British Subject, of No. 1 Factory, Brockhampton Lane, Havant, Hampshire, England, do hereby declare the invention, for which I pray, that a patent may be granted to me, and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention has reference to pontoons and has for its object to provide an improved construction of pontoon which may be used for many purposes other than for supporting bridges. Thus, it may be used when manufactured in longer lengths as a floating pier or landing stage, or for supporting a wood or fibre glass house unit to form a boat house. Further it may be used as a sea rescue station.

According to the present invention a pontoon is formed of resin bonded fibre glass mouldings constituting the deck, ends, sides and bottom of the pontoon, hollow transversely extending buoyancy and strengthening divisions bonded to the underside of the deck, to the bottom and to the sides of the pontoon and dividing the pontoon into compartments, and at least two floats extending longitudinally of the bottom, one near each side thereof.

The invention further consists in a pontoon formed of a one piece resin bonded fibre glass moulding constituting the deck or bottom, ends and sides of the pontoon, a second resin bonded fibre glass moulding constituting the bottom on deck of the pontoon and which is bonded to said sides and ends, at least three hollow resin bonded fibre glass transversely extending buoyancy and strengthening divisions bonded to the underside of the deck, to the bottom and to the sides of the pontoon and dividing the pontoon into compartments, and at least two floats likewise formed of resin bonded fibre glass and extending longitudinally of the bottom, one near each side thereof. The said transversely extending buoyancy and strengthening divisions may divide the pontoon into two end compartments constituting storage

spaces or lockers, a third compartment constituting a cockpit, the deck having openings providing access to such compartments, while a fourth compartment is sealed to form a buoyancy chamber.

The bottom may be formed by two superimposed panels of resin bonded fibre glass, each consisting of a moulding having at least two longitudinal depressions, the depressions of one panel registering with those of the other to form the floats. Or each float may be constructed independently of the bottom and thereafter bonded to the bottom.

The invention also consists in the method of constructing the improved pontoon which consists in constructing a wooden former corresponding to the deck or bottom, sides and ends of the pontoon, forming a resin bonded fibre glass mould therefrom, forming the fibre glass one piece moulding by the use of the mould, such moulding constituting the deck or bottom, sides and ends of the pontoon, forming a resin bonded fibre glass bottom or deck, the hollow fibre glass divisions and the floats in like manner and bonding the bottom to the side and ends, bonding the divisions to the deck, bottom and sides and bonding the floats to the bottom and divisions.

The invention will now be described with reference to the accompanying drawings wherein:

Figure 1 is a sectional elevation of a preferred construction of pontoon in accordance with the invention, the section being on the line 1—1 of Figure 2;

Figure 2 is a plan view of the pontoon, part of the deck being shown broken away;

Figure 3 is a sectional end view on the line 3—3 of Figure 1;

Figures 4 and 5 show successive steps in the construction of the pontoon; and

Figure 6 shows how larger pontoons can be formed from the same mould.

In constructing the improved pontoon a wood former 10 is first constructed, see Figure

4, the former corresponding to the deck, sides and ends of the pontoon. The part of the former corresponding to the deck may be scribed to form parallel shallow grooves. The former is given a coating of silicon free wax and thereafter a one piece mould 11 is formed therefrom by applying to the waxed faces a coat of polyester resin followed by a layer of chopped strand fibre glass mat of 1½ ounces to the square foot. Further coats of polyester resin and layers of such fibre glass mat are applied until the mould has been built up to the requisite thickness, say about ¼ inch. The mould 11 is then withdrawn from the former and from the mould a one piece resin bonded fibre glass moulding is built up to the requisite thickness, in the same manner as the mould is formed, to form the deck 12, the sides 13 and the ends 14 of the pontoon, see also Figure 5. If desired a pigment may be added to the first coat or coats of polyester resin. By reason of the shallow grooves formed in the former similar recesses are formed in the moulding to form a non-slip deck.

The deck is formed or is cut to form three openings 15, 16 and 17 to give access to the storage spaces and cockpit to be hereafter described. The bottom of the pontoon is formed of two superimposed panels 18 and 18a each of which has two longitudinally extending depressions 19, the depressions of the superimposed panels registering with each other to form two longitudinally extending floats 20. The floats are of torpedo formation at their ends and are located near the two sides.

The panels are formed of resin bonded fibre glass and are made by the use of appropriately constructed formers and moulds produced therefrom as above described. The two panels are bonded together and are inserted in the foot of the one piece moulding and bonded to the sides and ends thereof.

The pontoon has three hollow transverse strengthening and buoyancy divisions 21, 22 and 23. Each division is of U cross section, the free ends of the limbs having outwardly turned flanges and their rounded bases having two semi-circular gaps to register with the floats. Said divisions are likewise formed of resin bonded fibre glass and are made by the same method by which the deck, ends and sides are produced.

The floats are bonded to the sides of the gaps, the bottom is bonded to the sides and ends of the one piece moulding forming the deck, sides and ends of the pontoon and the flanges of the transverse divisions are bonded to the underside of the deck, their ends are bonded to the sides of the pontoon and their bases are bonded to the bottom and to the floats. The divisions are so positioned that they form storage spaces or lockers 24 at the ends of the pontoon, a cockpit 25 between an end division 21 and the intermediate division 22 and a sealed buoyancy chamber 26 between

the intermediate and the other end division.

The openings 15 and 17 give access to the storage spaces or lockers and the opening 16 gives access to the cockpit.

The floats, the hollow transverse divisions and the buoyancy compartment may be filled with air or may be filled with foam polyurethane or other light substance impervious to water.

In a modification the floats may be formed of separate fibre glass units and the bottom, which may be formed of a single panel, provided with longitudinally extending openings to receive the floats which are bonded thereto.

All bonding is done by means of lay up polystyrene resin.

Pontoons of different sizes may be formed from the same mould. This can be done by making one of its ends, or one of its sides, or both an end and a side detachable, see Figure 6. In the mould 11 shown in Figure 6 one end thereof, designated 24, is detachable. To make a moulding longer than the mould the moulding stops short of the fixed end, the other end is removed and the moulding slid through the open end of the mould until its outer end is at the requisite distance from the fixed end of the mould. The moulding is then completed. For long floating piers or landing jetties or such like the moulding is completed in a number of stages, that is the deck and sides can be formed by a series of stages, the end wall and end of the sides being formed by the final stage.

In like manner the breadth of the moulding can be increased.

The improved pontoon is exceedingly strong and may be regarded as practically unsinkable.

To render the pontoon movable it may be provided with an outboard motor. Where a motor is provided it is preferably fitted to the end nearer the cockpit as said end is generally lower in the water than the other end.

In an alternative construction the sides and ends may be integral with the bottom and the deck thereafter bonded thereto.

WHAT I CLAIM IS:—

1. A pontoon formed of resin bonded fibre glass mouldings constituting the deck, ends, sides and bottom of the pontoon, hollow transversely extending buoyancy and strengthening divisions bonded to the underside of the deck, to the bottom and to the sides of the pontoon and dividing the pontoon into compartments, and at least two floats extending longitudinally of the bottom, one near each side thereof.

2. A pontoon formed of a one-piece resin bonded fibre glass moulding constituting the deck or bottom, ends and sides of the pontoon, a second resin bonded fibre glass moulding constituting the bottom or deck of the pontoon and which is bonded to said side and ends, at least three hollow resin bonded fibre glass transversely extending buoyancy and strengthening divisions bonded to the underside of the

5 deck, to the bottom and to the sides of the pontoon and dividing the pontoon into compartments, and at least two floats likewise formed of resin bonded fibre glass and extending longitudinally of the bottom, one near each side thereof.

10 3. A pontoon as claimed in either of the preceding claims wherein the bottom is formed by two superimposed panels of resin bonded fibre glass, each consisting of a moulding having at least two longitudinal depressions, the depressions of one panel registering with those of the other to form the floats.

15 4. The method of constructing a pontoon as claimed in any of the preceding claims which consists in constructing a wooden former corresponding to the deck or bottom, sides and ends of the pontoon, forming a resin bonded fibre glass mould therefrom, forming the fibre

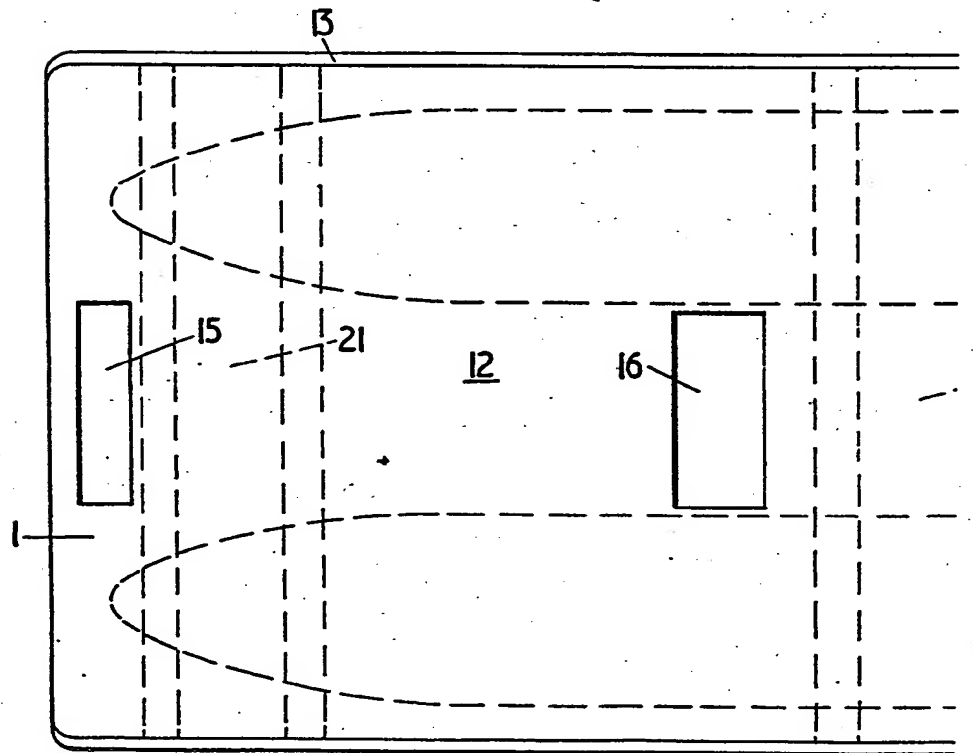
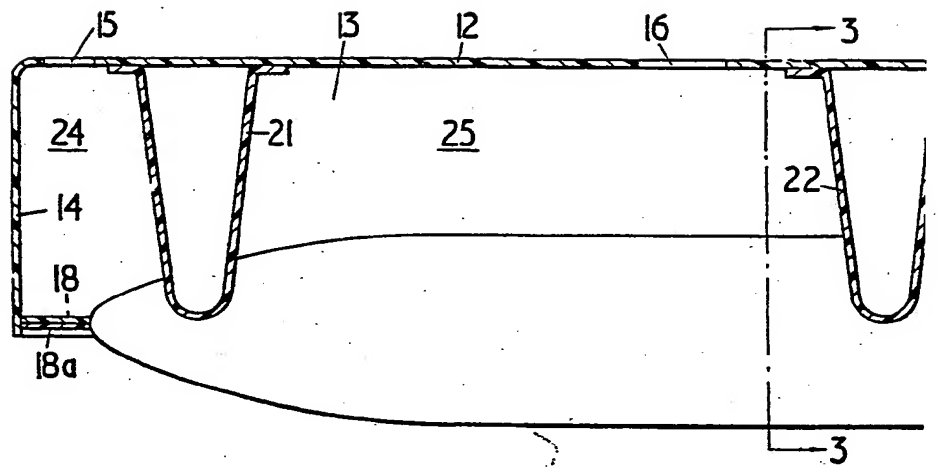
20 glass one-piece moulding by the use of the mould, such moulding constituting the deck or bottom, sides and ends of the pontoon, forming a resin bonded fibre glass bottom or deck, the hollow fibre glass divisions and the floats in like manner and bonding the bottom or deck 25 to the side and ends, bonding the divisions to the deck, bottom and sides and bonding the floats to the bottom and divisions.

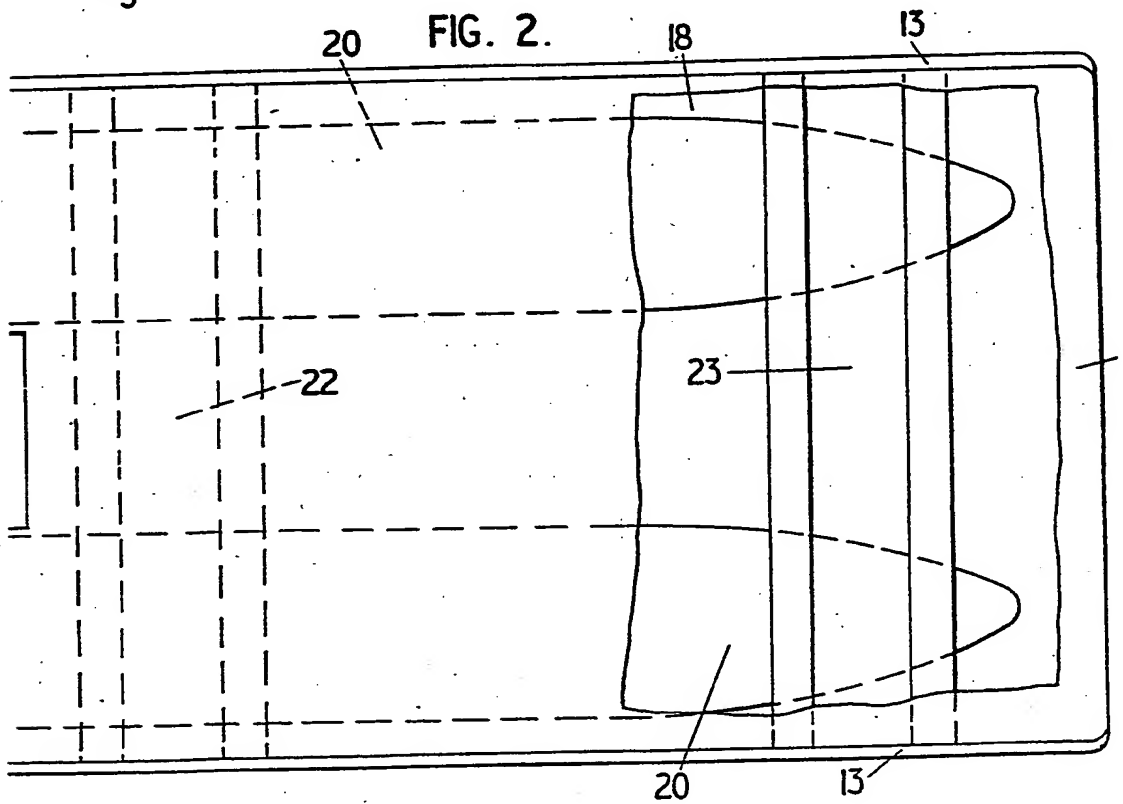
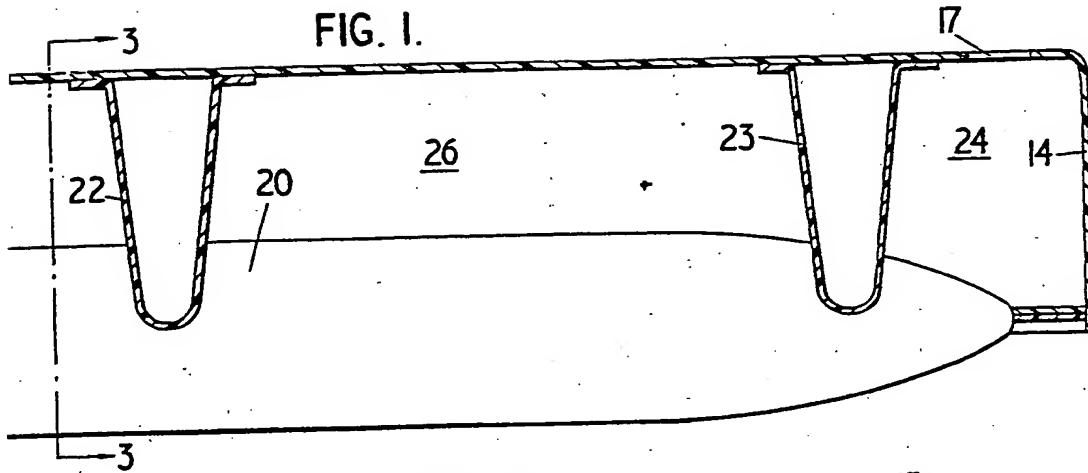
5. A pontoon substantially as herein described and illustrated by the accompanying 30 drawings.

6. A method of making pontoons substantially as herein described and illustrated by the accompanying drawings.

MARKS & CLERK,
Chartered Patent Agents,
Agents for the Applicant.

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Sheet 1



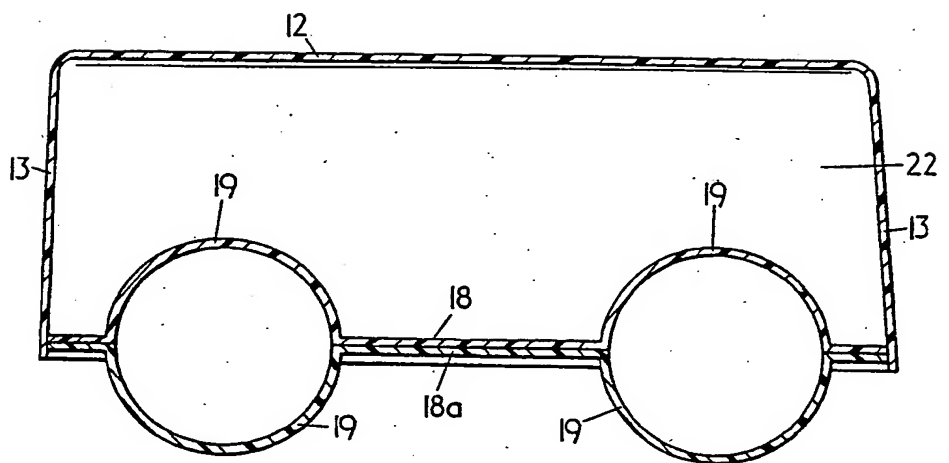


FIG. 3.

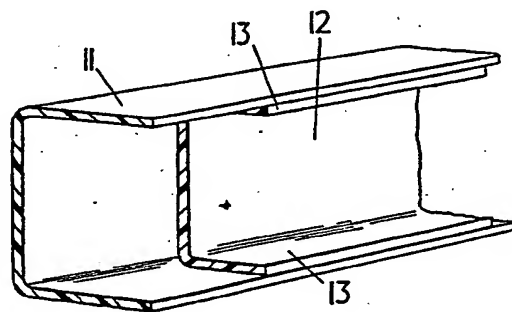
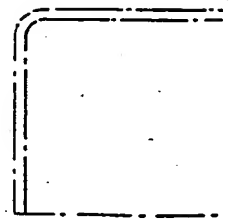


FIG. 5.



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COMPLETE SPECIFICATION

2 SHEETS

*This drawing is a reproduction of
the Original on a reduced scale
Sheet 2*

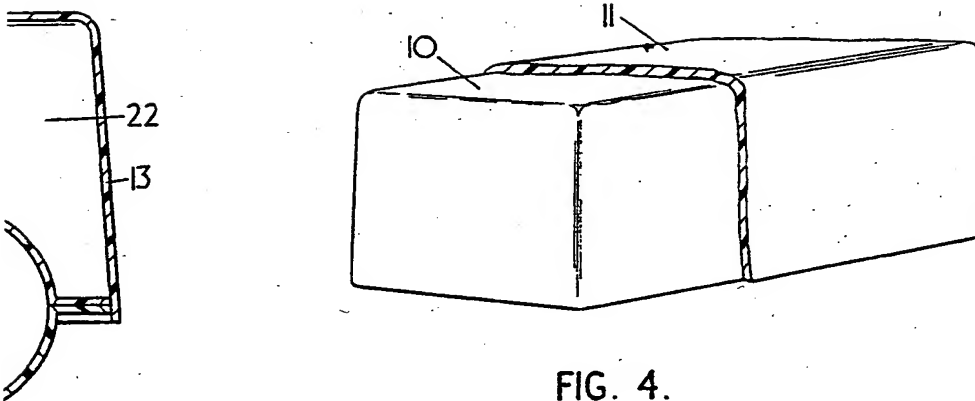
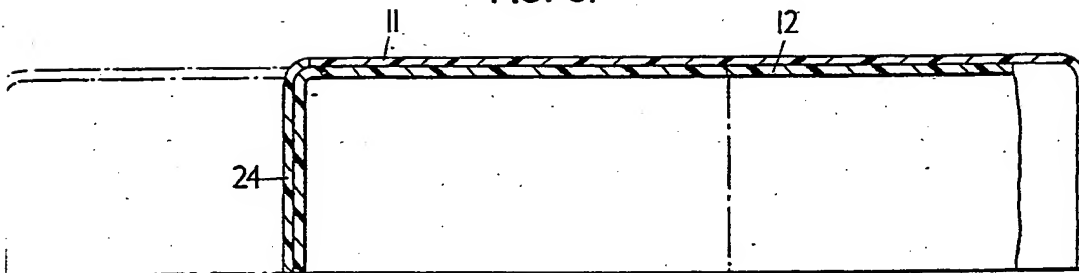


FIG. 6.



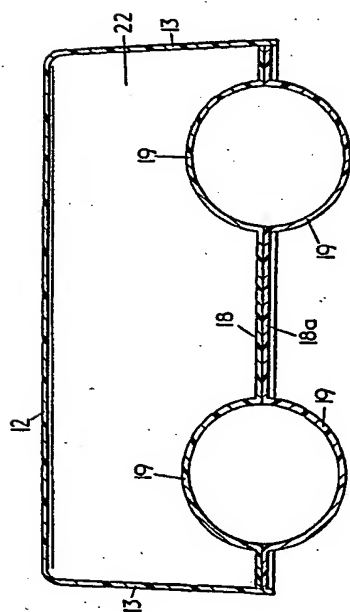


FIG. 3.

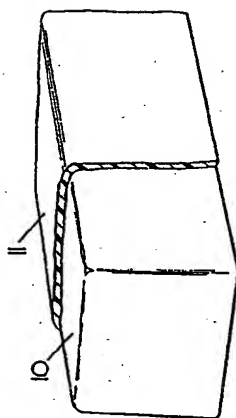


FIG. 4.

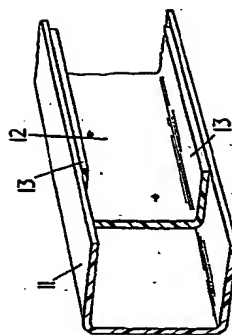


FIG. 5.

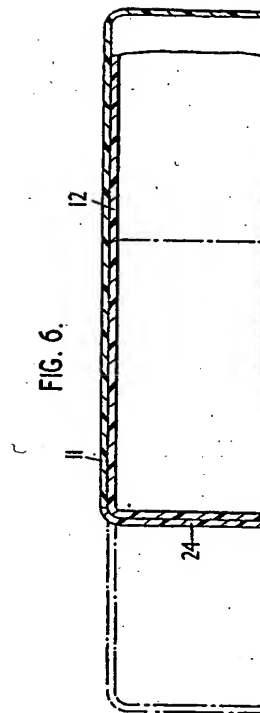


FIG. 6.

